Discussion

Equity Lender Base and Limits to Arbitrage: Position-Level Evidence from Mutual Funds

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Big Picture

- Why do we observe overpricing in some stocks, often over extended periods, while short sellers remain on the sidelines? What constrains them?
  - Dissecting the constraints on short selling emanating from the securities lending market

- We assemble a novel dataset that allows us to identify actual lenders of shares.
  - The new Form N-PORTs filed by mutual funds to the SEC contain fund position-level information on whether a mutual fund lends out a particular stock at quarterly reporting dates.
  - First to utilize this systematic and mandatory disclosure to study the securities lending market

Data

- Position-level mutual fund securities lending data
  - N-PORT filing: SEC's *Investment Company Reporting Modernization Rules*, effective on February 27, 2019
  - 2019Q3-2022Q2

- Lending market
  - Markit: short interests, lendable shares, fees, utilization ratios

- Stock
  - CRSP: Returns, volatilities, turnovers, bid-ask spreads

- Funds
  - CRSP: TNA, expense ratios, fund flows, etc.

Findings

- Structure of equity lender base
  - Persistent and fragmented lender base, existing factors are far from fully explaining the heterogeneity at fund–stock level
    - Many hypothesis raised

- Securities lender exits
  - Lendable shares decrease, fees spike, short-selling decrease
  - Stock returns increase during the exit quarter, but reverse in the long run
  - Inefficient prices and particularly overpricing
  - More firm share issuance, likely taking advantage of overpricing

- Lender concentration has negative stock return implications

My Overall View

- Very interesting paper
  - Important research question
  - Novel, unique and rich dataset
  - Many interesting findings

- A few potential improvements
  - Structure
  - Data

The Game Among Lenders, Borrowers and Stocks

- At the beginning

- At the end

Why Short-sellers borrow and sell?

- Negative outlook for the stock
  - If price collapses in the future, then short-sellers profit from short-selling
- Have access to lendable shares
  - Direct cost: collateral, fees, rebate rate
  - Other cost (risks): locate lendable shares, recall risk, squeeze risk (if price goes up)
- Only short-sell when
  - Profit > cost
  - We tend to think short-sellers know something before they short

Why Mutual Funds Lend?

- Outlook for the stock
  - Positive or negative? Or neutral?
  - Cash inflow: fees, rebate rate

- Potential costs/risks
  - Screening borrowers: credit risk

- So why mutual funds lend?
  - Quick money by providing short-term liquidity?
  - Information advantage? Or information disadvantage?
  - How much do they make from stock loan business?

A Unified Framework

- Participants
  - Equity loaners: mutual funds and others
  - Short-sellers
- Why do they trade? Money
  - Information, Liquidity, Frictions
- Implications for mutual funds, short-sellers and the underlying
  - Informativeness, efficiency, liquidity, and limit to arbitrage
- I feel there needs to be some hypothesis testing rather than describing them in words on pages 16-20.

The N-PORT Data

Item B.4. Securities lending.

a. For each borrower in any securities lending transaction, provide the following information:

   i. Name of borrower.

   ii. LEI (if any) of borrower.

   iii. Aggregate value of all securities on loan to the borrower.

b. Did any securities lending counterparty provide any non-cash collateral? [Y/N] If yes, unless the non-cash collateral is included in the Schedule of Portfolio Investments in Part C, provide the following information for each category of non-cash collateral received for loaned securities:

   i. Aggregate principal amount.

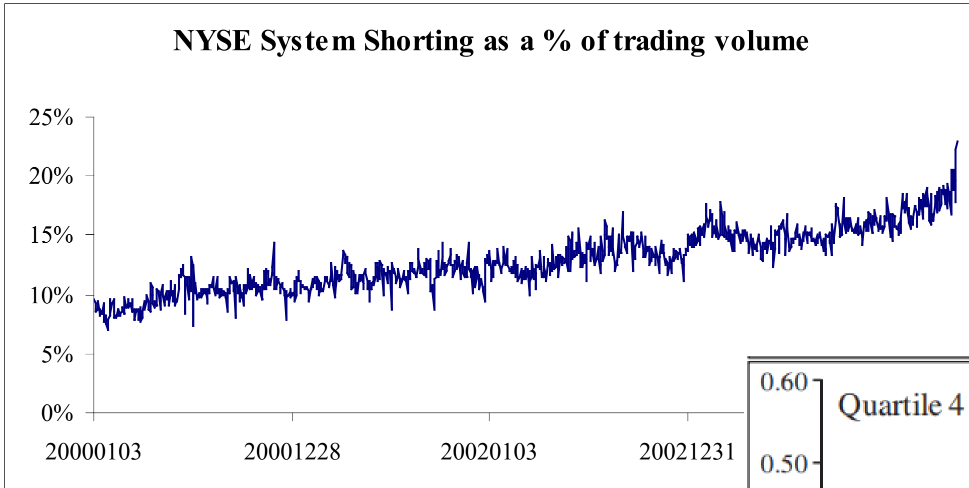
   ii. Aggregate value of collateral.

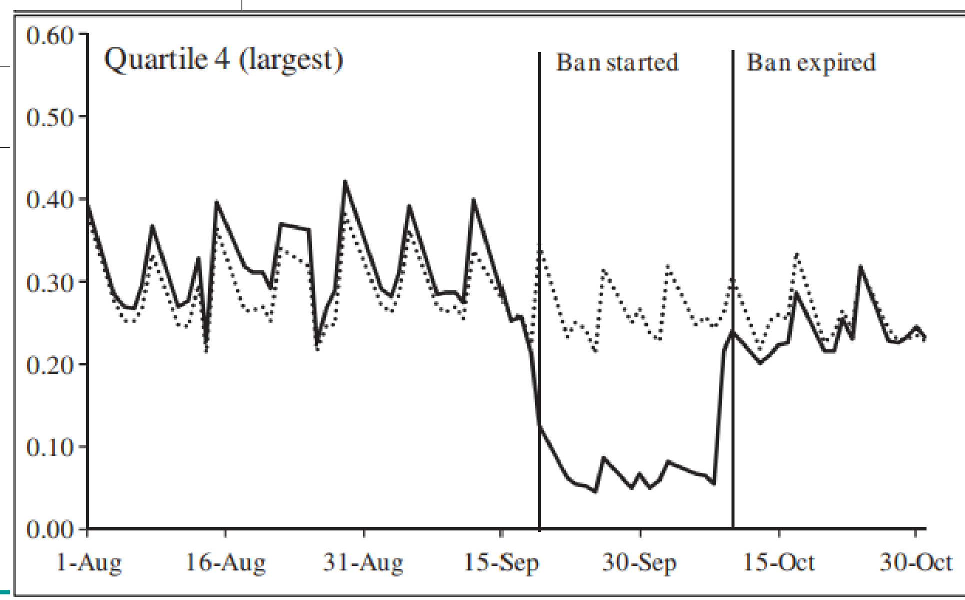
   iii. Category of investments that most closely represents the collateral, selected from among the following (asset-backed securities; agency collateralized mortgage obligations; agency debentures and agency strips; agency mortgage-backed securities; U.S. Treasuries (including strips); other instrument). If "other instrument," include a brief description, including, if applicable, whether it is an irrevocable letter of credit.

N-PORT Data is rich

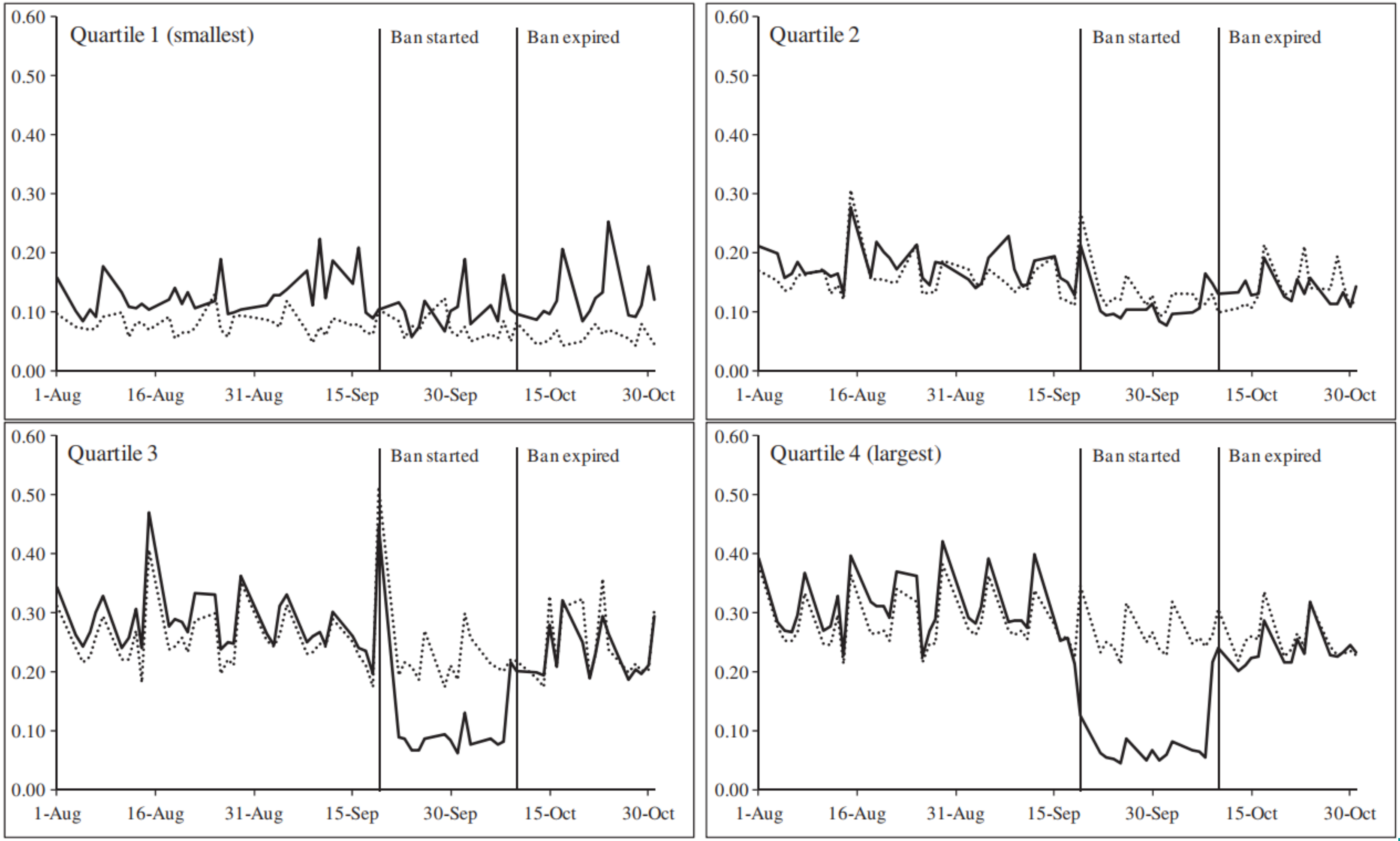
- Can we use the following data items?
  - "name of borrower"
  - "collateral"
  - "aggregate value on loan by borrower"
- Help to establish the pair-wise connection between borrowers and loan providers?
- Relationship dynamics?
- Other data items: Derivatives etc.

General Question: Are short-selling constrained?





Stocks with Different Sizes



Suggestions/Questions

- The previous pictures don't seem to show short-sellers are necessarily constrained?
- Are mutual funds the most important equity loan providers?
- Would the pattern be different for stocks with different sizes?
- Given short-selling's horizon is not long, would quarterly filings capture a big chunk of equity loans?

Conclusion

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  - Data

- I really learned a lot!